

Amendments To The Specification

Please replace the third full paragraph on page 6, beginning at line 25 through the first paragraph of page 7, ending at line 7:

The recovery manager computer 4 also includes a new BIOS image file 28 for use in updating the BIOS 13A-13C of at least one of the computers 2A-2C over the network 18. The BIOS image file 28 may be a copy or an updated version of the BIOS ~~[[13 A]]~~ 13A-13C. Updates to the BIOS 13A-13C utilizing the BIOS image file 28 may be performed in order to update the BIOS 13A-13C after the BIOS version has changed or to recover the BIOS 13A-13C after it has been erased or otherwise corrupted. In particular, the BIOS image file 28 is remotely sent from the recovery manager computer 4 over the network 18 to the memory of at least one of the network attached computers 2A-2C that receives an update instruction from the manager computer 4. The BIOS image file 28 may also be sent to a network attached computer 2A-2C in response to the transmittal of a recovery request from boot block recovery code 15A-15C executing on one of the computers 2A-2C. Such a request is typically sent in response to detecting an invalid BIOS during a boot of the network attached computer 2A-2C.

Please replace the first full paragraph on page 8, beginning at line 15, and ending at line 29:

Upon transitioning to the OS independent recovery state, control passes to a BIOS agent application 17A-17C. The BIOS agent applications 17A-17C execute in the OS independent recovery state to send a notification of readiness to update over the network 18 to the manager computer 4. Upon receiving the notification of readiness, the manager computer 4, via the remote installation ~~services~~ services, sends the BIOS image file 28 over the network 18 to the PXE enabled NIC 20 for installation within the memory of the network attached computer 2. For instance, the BIOS image file 28 may be transmitted in fragments from the manager computer 4 to the network attached computer 2A. Once the entire BIOS image file 28 has been received into the memory of the network attached computer 2A, the update process is continued. For instance, when the entire BIOS image file 28 has been received, the BIOS agent application ~~[[27A]]~~ 17A executes instructions to erase and replace the current BIOS 13A image file with the

BIOS image file 28. Additional details regarding transmission of the BIOS image file 28 fragments and remote firmware updates will be described below with respect to FIGURES 4-5.

Please replace the second full paragraph on page 9, beginning at line 19, and ending at line 25:

When the BIOS 13 boots up the computer, it first determines whether all of the attachments are in place ~~[[an]]~~ and operational and then it loads the OS, or key parts of it, into a computer's RAM from a hard disk or diskette drive. Sometimes changes can be made to the system configuration during BIOS setup. As described herein, in order to store the maximum amount of data on the flash memory 11, portions of the BIOS may be stored in a compressed format. The compressed portions are decompressed prior to execution by the CPU 5.

Please replace the third full paragraph on page 9, beginning at line 26 through the first paragraph of page 10, ending at line 5:

The boot block recovery code 15 is also stored in the BIOS 13 to detect invalid firmware and, in response, interrupt boot operations to notify the manager computer 4 that a new firmware image is needed. Additional details regarding boot block recovery are disclosed ~~in patent application number 10/434,025~~ U.S. Patent No. 7,322,029 filed May 8, 2003 and entitled "Method and System for Recovering Program Code in a Computer System" which is hereby incorporated by reference. The BIOS 13 also includes an IP address 19 for the manager computer 4. The IP address 19 is used by the boot block recovery code to determine where the recovery request should be sent. In the alternative, the computer 2 may be equipped with a baseboard management controller 23 to identify the location of the manager computer 4.

Please replace the second full paragraph on page 13, beginning at line 13 and ending at line 19:

Returning to operation 412, the BIOS agent application 17A continues to receive the broadcast packet fragments until the broadcast is complete. Meanwhile upon completion of the broadcast at operation ~~[[424]]~~ 424, a request for status of the image broadcast is sent from the manager computer 4 to the computer 2A. The operational flow 400 then continues from

operation 424 to operation 416. At operation 416 the status request is received by the BIOS agent 17A. The operational flow 400 then continues to operation 418.

Please replace the first full paragraph on page 14, beginning at line 3 and ending at line 19:

At operation 432, in response to the BIOS image 28 being valid and complete, the BIOS agent 17A flashes the current BIOS with the new BIOS image 28. The BIOS agent 17A also sends notification of the update to the manager computer 4. It should be appreciated that the BIOS agent 17A will not acknowledge any network requests or instructions until the update is completed. The operational flow 400 then continues to operations 434 and 430. At operation 434, the BIOS agent 17A reboots the computer 2A with the new BIOS image 28 and returns control to other operations at return operation 438. At operation 430, the manager computer 4 receives the notification of the update. The operational flow 400 then continues to operation 436 where the status display is updated based on the notification of update. The operational flow ~~[[500]]~~ 400 then returns control to other operations at return operation 440.

Please replace the first full paragraph on page 16, beginning at line 6 and ending at line 18:

At operation 528, the BIOS agent 17A verifies that a complete BIOS image 28 has been received. If the BIOS image is complete, the operational flow 500 continues from operation 528 to operation ~~[[530]]~~ 532 described below. If the BIOS image 28 is incomplete, the operational flow 500 continues to operation 530. At operation 530, a request for the rebroadcast of missing fragments is sent to the manager computer 4. It should be appreciated that numbers of the missing or corrupted fragments may be included in the request. The operational flow 500 then continues to operation 526 where the rebroadcast request is received at the manager computer 4. Next, the operational flow 500 continues to operation 527 where a graphical status interface is updated to display the progress of update operations. The status display may be via the input/output controller 22 and display device 25 described above in FIGURE 3. The operational flow 500 then returns to operation 516 where the missing fragments of the BIOS image 28 are rebroadcast to the BIOS agent 17A.